REPORT on
THE DODD LAKE PROPERTIES
POWELL RIVER, BRITISH COLUMBIA
for 671452
CARACAS MINING CO. LTD. (N.P.L.)

by: R.W. Phendler, B.Sc., P.Eng.

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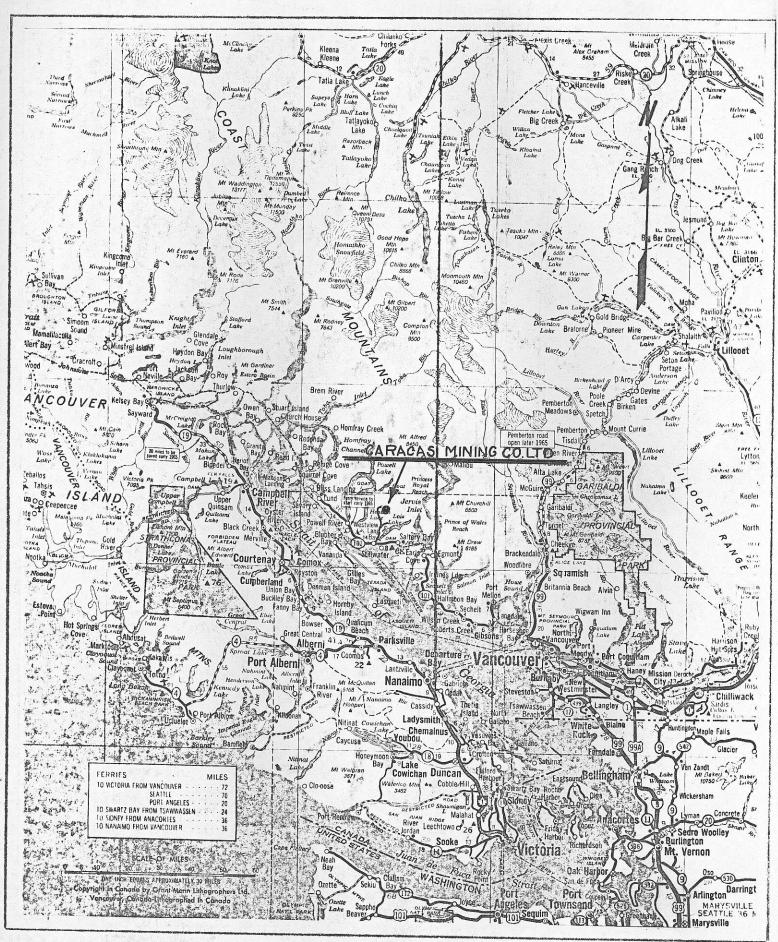


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Fig.	1	**	Location Map -	1 11	= 30 miles		Frontispiece
Fig.	2	*	Geological map Caracas Mining	of Co.	the Dodd Lake Properties Ltd 1" = 800*	*	In envelope at back of report

SUMMARY AND CONCLUSIONS

The properties of Caracas Mining Co. Ltd. consist of five claim groups in the Dodd Lake area, ten miles northeast of Powell River, British Columbia. They are accessible by logging roads from Highway 101.

The claims are underlain by granitic rocks of the Coast Range intrusive complex. An earlier investigation, in 1967, by Falcon-bridge Nickel Mines Ltd. showed that within the granodiorite and mon-zonite on the Bruce group of claims a fracture zone occurs that strikes N 80° E. The zone contains a late phase, feldspar porphyry dyke that underwent fracturing, associated silica flooding and sulphide mineralization. This silicification with accompanying mineralization is also found in the granodiorite, up to 800° south of the dyke.

The dyke has been followed for more than 2000' along strike. Chalcopyrite mineralization has been found in appreciable quantities in three locations where trenching and sampling has been done. In one trench an assay of 2.40% copper was obtained across 100'. (See Fig. 2 -Main trench). These samples were taken by the writer.

Geochemical investigation by Falconbridge disclosed the presence of a copper anomaly in the area of the chalcopyrite showings on the Bruce claims and the anomaly remains open to the west. Magnetometer, EM and self-potential geophysical methods were employed and are considered to have been rather ineffective in outlining other than already obvious targets. Induced polarization was not used and it is

considered that, until this is done, little will be known regarding depth possibilities of the mineralization.

The east and west extensions of the mineralized dyke on the Bruce group should be investigated into the Doe and the Coot claim groups (See Fig. 2).

A strong (copper) soil anomaly discovered by Falconbridge Nickel Mines Ltd. on the south limit of the Mary V claims (See Fig. 2) is thought to extend into the Mike claim group. Sulphide mineralization is reported on these claims and a reconnaissance geochemical survey is warranted.

During the four months of the Falconbridge Nickel Mines

Ltd. option of the Bruce claims, some geological, geochemical and geophysical work was carried out. Diamond drilling of self-potential

anomalies, which method has limited penetration to approximately the depth
of the water table, disclosed the presence of widespread, low grade

(0.10%) mineralization. Only one hole (#8) crossed the feldsparporphyry dyke with associated quartz veins and sulphide mineralization.

The Toro group on the west side of the area (See Fig. 2)
has received little attention. Recent prospecting on the adjoining
Vi claims has disclosed the presence of pyrite-chalcopyrite mineralization in granodiorite. Some reconnaissance geological work is warranted
on these claims.

RECOMBINDATIONS

It is recommended that an induced polarization survey be conducted over the Bruce group of claims. Two hundred and four hundred foot electrode spacing is the recommended interval and consequently the approximate depth of penetration. Follow-up drilling should investigate the anomalous areas.

On the Doe claims, which lie along strike to the southwest of the Bruce zone, recommaissance soil sampling is recommended. This should be done every 400 feet on lines 400* apart.

Similarly, recommaissance soil sampling is recommended for the Coot claims which adjoin the Bruce claims on the east and south; and for the Mike group south of where Falconbridge obtained strong geochemical indications,

The Toro group of claims is close to recently discovered outcrops of medium grained granodiorite with disseminated pyrite and chalcopyrite on the VI group of claims. Thirteen trenches over an area of 200 feet square were recently dug and were examined by the writer in November 1969. The Toro group warrants some geological reconnaissance work.

It is recommended that the sum of \$75,130 be provided in order to carry out the above program.

COST ESTIMATE

TOPP	14.	19	NOTE:	ALC: Y
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CONSTRUCTOR	pippi	DOM	WINING	massarily

KRADE L			
Bruce Group			
Linecutting - 12 miles @ \$150/mi. Induced polarization - 12 miles @ \$500/mi. Engineering and geology	\$1800 6000 <u>1500</u>	\$9300	
Coot and Doe Group			
Linecutting - 25 miles @ \$150/mi. 300 soil samples - collection @ \$1.50/sample 300 " " analyzing " " Geological mapping	3750 450 450 1500	6150	
Mike Group			
Linecutting -21 miles @ \$150/mi. 200 soil samples - collection @ \$1.50/sample 200 " " analyzing " " Geological mapping	3150 300 300 1600	5350	
Toro Group			
Geological reconnaissance and prospecting		1500	\$22,300
PHASE II			
Bruce Group			
Diamond drilling - 3500° of BQ @ \$12/ft. Engineering and geology control	\$42,000 2,000		44,000
			\$66,300
Consulting fees and supervision	n		2,000
			\$68,300
Plus 10% contingencies			6,830
			<u> \$75,130</u>

INTRODUCTION

On November 17th, 1969, the writer examined the Dodd Lake properties that Caracas Mining Co. Ltd. was considering optioning from Mary V. Boylan of Powell River, British Columbia. At that time the VI, Mary V and Bruce claim groups were examined but negotiations to option the ground were not completed.

The Bruce group was later optioned on May 6th, 1970.

The examination was made in the company of Mr. C. Pfeiffer,

President of Caracas Mining Co. Ltd.

LOCATION AND ACCESS

The Dodd Lake properties are located seventy miles northwest of Vancouver and ten miles northeast of Powell River. They are on the western slope of the Coast Mountains at elevations of 1000° or less.

Access is by a logging road which leaves Highway 101 at Lang Bay thirteen miles southeast of Powell River. Dodd Lake is 18 miles north of the highway and is accessible by sedan. The area is wooded and water is available most of the year.

PROPERTY AND OWNERSHIP

The holdings of Caracas Mining Co. Ltd. in the Dodd
Lake area are as follows:

Bruce Claim Group	Numbers	1-6
Coot Claim Group	19	1-25
Doe Claim Group	8.6	1-28
Mike Claim Group	91	1-15
Toro Claim Group	93	1-12

The six Bruce claims are under option from Mary V.

Boylan, Powell River, British Columbia. The Bill of Sale is on record
as of May 6th, 1970. Of the other 80 mineral claims, 77 claims were
staked between December 1-3, 1969 and the Mike 13, 14 and 15 claims
were staked on January 10th, 1970.

The Bruce, Coot and Doe claim groups are contiguous, whereas the Mike and the Toro groups are separate and lie about three to four miles southwest and northwest of the other groups.

HISTORY

In March 1967, Falconbridge Nickel Mines Ltd. optioned the Bruce and the Mary V claim groups from Mary V. Boylan and partners. The property was under option for 4½ months and, during the first three months, both properties were geologically mapped, soil sampled, surveyed by magnetometer, self potential and electromagnetic units. Some trenching was also done and, during the last month, diamond drilling was carried out. Induced polarization work was not undertaken.

Since 1967, some prospecting has been done in the area.

GEOLOGY AND MINERALIZATION

The area of the claims under discussion is largely covered by overburden. It is underlain by granitic rocks of the Coast Range intrusive complex. They include granodiorite, monzonite, feldspar porphyry and diorite. Contacts between the various phases of the granitic rocks are gradational; they probably represent facies changes rather than normal intrusive contacts.

Widespread silica flooding has taken place in the vicinity of the mineral showings on the Bruce group; quartz occurs interstitially and in well defined veins that frequently contain chalcopyrite.

On the Bruce group, a very strong zone of fracturing is present, striking N80°E. This zone is coincident with a feldspar porphyry dyke. Intense quartz veining with associated sulphide mineralization occurs sporadically in the zone. Nost of the quartz stringers strike N80°E and dip near vertical. They vary from hairline, discontinuous veinlets to strong veins up to 6 inches in width which may be followed for ten feet or more. The veining decreases in intensity outward from the feldspar porphyry dyke.

Two areas of massive mineralized quartz are exposed on the Bruce group, one in the area of the main trench (See Fig. 2) and the other 600 feet to the east along strike. These consist of intergrowths of glassy vein quartz, and granular quartz with pyrite and chalcopyrite. Visible chalcopyrite mineralization is confined to a total area of about 800 feet square.

The writer took the following samples:

Sample No.	Meth	Z Cu	Oz. An	<u>% 110</u>	Location
17331	151	1.00	0.16	*0.001	Lower showing - 200° W of access road
17332	30*	3.40	186	94	Main trench - 0-50' North
17333	501	1.40	0.17	**	" " 50-100* "
17334	50*	0.13	490	23	" " 100-150* "
17335	30*	0.05	400	76	" " 150-180" "
17336	5*	0.04	app.	22	D.H. 5 - 280-285*
17337	71	0.11	466	\$9	Near D.H. 8

^{*} Less than

These samples were analyzed by Chemex Labs Ltd., North Vancouver, British Columbia - certificate of analysis No. 7933.

Samples No. 17332-17335 were adjacent through the main trench. The first two averaged 2,40% Cu across 100°.

Copper-molybdenum mineralization has been reported from the Mike group of claims but was not seen by the writer. Sulphide mineralization is also reported from the Doe group of claims.

GEOCHEMI STRY

Soil sampling carried out on the Bruce group by Falconbridge Nickel Mines Ltd. disclosed an area of anomalous copper values roughly covering the area of quartz veining. The higher values within the anomalous area (greater than 150 ppm copper) tend to form linear zones. Background is considered to be 50 ppm copper. The anomalies occur on the hill tops rather than in the drainage depressions and cover a considerable area on the western end of the Bruce claims.

The geochemical survey carried out on the Mary V group, which lies immediately north of the Mike group, showed a very strong copper anomaly on the southern margin of the claims and it was considered possible that it extended southward off the Mary V group. This southern extension is now covered by the Mike claim group and warrants geochemical investigation. It was considered a target area by Falconbridge.

GEOFHYSICS

Magnetometer

A magnetometer survey was carried out in 1967 over most of the Bruce group. Results could not be correlated with any of the known geologic data.

EM 16

The electromagnetic survey carried out by Falconbridge in 1967 indicated a broad, weak conductor extending several hundred feet south of the main trench on the Bruce group. A number of narrow, weak conductors were also detected and are thought to represent faults.

Self Potential

The self potential or spontaneous polarization method is a rapid reconnaissance technique that is often used by the prospector in the preliminary examination of a property where the overburden is expected to be thin. The method involves measurements on the surface of electric potentials developed in the earth by electro-chemical action between mineral and solutions with which they are in contact. When different portions of an orebody are contiguous with solutions of different compositions, chemical reactions take place which result in different solution pressures at the respective areas of contact. The difference in solution pressure gives rise to a potential difference which causes current flow in the ground.

The most usual reason for the difference in composition of the solutions surrounding an orebody is differential exidation of

the ore. All near surface sulphide bodies do not exhibit anomalous potentials, since there are many surface conditions that inhibit oxidation.

Oxidation is virtually absent below the water table.

The self potential survey on the Bruce group indicated small anomalous zones around the two mineralized quartz masses previously described in this report. These quartz masses outcropped at surface and were thus easily picked up by the self potential method. In short, little was known after the survey that was not known before the survey.

The writer concludes that an induced polarization survey is advisable to outline properly the mineralized area.

DIAMOND DRILLING

In 1967 nine holes were drilled on the Bruce group of claims as follows. The first two were drilled near the main trench.

D.H. No. 1 was drilled vertical for 308' close to the steeply dipping mineralized quartz stringers. The first 10.5' assayed 0.20% Cu and the following 52' assayed 0.10% Cu. The remainder of the hole averaged 0.09% Cu.

D.H. No. 2 was drilled south at -60° for 290' from the same location as D.H. No. 1. The first 54' assayed 0.25% Cu and the remainder of the hole averaged 0.10% Cu. The entire 290' averaged 0.14% Cu.

D.H. No. 3 was drilled vertical for 302' from a point 200' south of Holes 1 and 2.

From 5' to 98' assayed 0.16% Cu From 98' to 197' " 0.10% cu From 197' to 302' " 0.13% Cu D.H. No. 4 was drilled vertical for 299 - 200 south of D.H. No. 3.

The entire hole averaged 0.11% Cu.

D.H. No. 5 and D.H. No. 6 were drilled north and south at -45° from a point 400' southeast of D.H. No. 4. Hole No. 5 intersected 0.05% Cu for the last 360' (144'-504') and D.H. No. 6 continued in 0.03% Cu from 25' to 137'. Total depth was 501'.

D.H. No. 7 was drilled north at -45° for 507'. Most of the hole was in 0.07% Cu. Location is 400' southwest of D.D.H. No. 4.

D.H. No. 8 was located 600' northeast of holes 1 and 2 and was drilled north at -45° for 300'. The first 105' assayed 0.08% Cu and the remainder of the hole averaged 0.05% Cu.

D.H. No. 9 was drilled under Beaver Lake from the east shore to explore an EM anomaly under the lake. Nothing of interest was encountered.

In summary, several of the holes intersected widespread but low grade (0.10% Cu) mineralization. However, much of the strike length of the mineralized zone on the Bruce group remains untested.

Respectfully submitted, BACON & CROWHURST LTD.

Phondiar B.Sc., P.Eng.

Rendler P. Fry

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- S.H. Pilcher "Report on the Dodd Lake Property (Boylan-Mickle Option)" - December 1967 - Palconbridge Nickel Mines Ltd.
- 2. Milton B. Dobrin "Introduction to Geophysical Prospecting" McGraw-Hill Book Company, 1952.

CERTIFICATE

I, Roy William Phendler, of the City of Vancouver in the Province of British Columbia hereby certify as follows:

- 1. That I am a registered Professional Engineer in the Province of British Columbia, No. 4421.
- That I am a graduate of McGill University, Montreal, Quebec, with a Bachelor of Science degree in geology.
- 3. That I have practiced my profession as geologist continuously for the past seventeen years in Quebec, Ontario, Saskatchewan and British Columbia in Canada; in some of the western U.S.A.; Nexico; and Peru and Colombia in South America.
- 4. That I have no interest directly or indirectly in the mineral claims of Caracas Mining Co. Ltd., nor do I expect to receive any.
- 5. That the information contained herein was compiled as a result of an examination of the ground on November 17th, 1969.

R.W. Printer & Sc. P. Eng.

R.W. PHENDLER

Vancouver, B.C.

June 9th, 1970.

